REMARKS

Upon entry of the instant Amendment, claims 14-20 and 31-51 will be pending in the application. By the instant amendment, claims 14, 33 and 42 have been amended and new claims 50 and 51 have been presented for the Examiner's consideration. Applicants submit that no new matter has been added by the above amendment. Support for the amendment and new claims can be found, for example, in Figure 4 and original claims 22 - 24. Reconsideration of the rejected claims in view of the above amendment and the following remarks is respectfully requested.

Telephone Interview

Applicants appreciate the courtesy extended by Examiner Nguyen in the telephone interview of May 1, 2009. In the interview, Applicants proposed possible amendments to the claims to place the application in condition for allowance. The Examiner explained that the proposed amendments would appear to overcome the prior art rejections; however, the Examiner indicated that a further search would be necessary.

Applicants also note that while Applicants have amended claims 14, 33 and 42 in an effort to advance prosecution, Applicants are not conceding in this application that the previously presented claims are not patentable over the art cited by the Examiner. The present claim amendments are only for facilitating expeditious prosecution of possible allowable subject matter and/or to obtain earlier allowance. Applicants respectfully reserve the right to pursue these and other claims in one or more continuation patent applications.

35 U.S.C. § 102 Rejection

Claims 14 – 17, 31 – 36 and 40 – 45 were rejected under 35 U.S.C. §102(b) for being anticipated by Patent No. 6,097,066 issued to Lee et al. (hereinafter "Lee"). This rejection is respectfully traversed.

To anticipate a claim, each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference. MPEP § 2131. Applicants respectfully submit that Lee does not disclose each of the features of the present invention.

Independent Claims 14 ,33 and 42 over Lee

The present invention relates to a semiconductor device. Claims 14, 33 and 42 each recite, in pertinent part:

> . . . a metal ring surrounding an active region of the semiconductor device,
>
> . . .
>
> wherein the drain comprises at least one drain finger extending beyond the metal ring.

Applicants submit that Lee does not disclose each of the features of the present invention. For example, Applicants submit that Lee does not disclose the drain comprises at least one drain finger extending beyond the metal ring, as recited in claims 14, 33 and 42.

In addressing previously presented claims 14, 33 and 42, the Examiner asserts that Lee discloses each of the features of the present invention. More specifically, the Examiner refers to Figures 2 and 3 of Lee. Applicants have reproduced Figures 2 and 3 below.

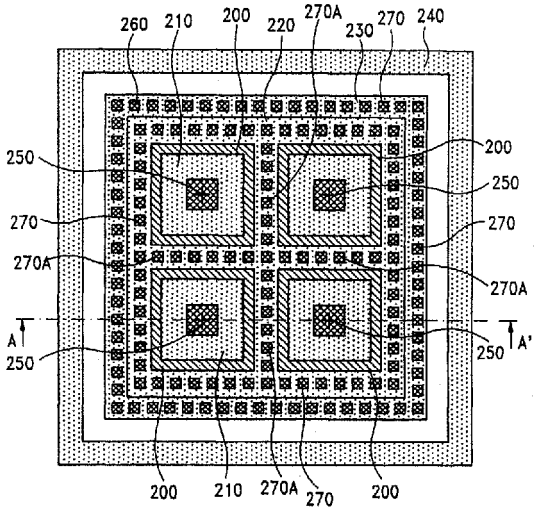


FIG.2 (Prior Art)

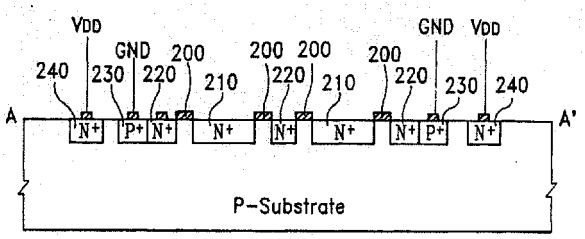


FIG.3 (Prior Art)

While acknowledging that Lee discloses a metal ring 240 surrounding an active region of the semiconductor device and discloses a drain 210, Applicants submit that Lee does not disclose that the drain comprises at least one drain finger extending beyond the metal ring, as recited in claims 14, 33 and 42. Rather, as shown in Figure 2, Applicants submit that Lee does not disclose a drain finger. Moreover, Applicants submit that the drain 210 and drain contact 250 are contained within the metal ring 240.

Thus, Applicants respectfully submit that Lee does not disclose a drain comprising at least one drain finger extending beyond the metal ring, as recited in claims 14, 33 and 42, and does not anticipate the present invention.

Dependent Claims 15 – 17, 31, 32, 34 – 36, 40, 41 and 43 – 45 over Lee

Claims 15 – 17, 31, 32, 34 – 36, 40, 41 and 43 – 45 are dependent claims, depending from respective distinguishable independent claims. For this reason, Applicants submit that claims 15 – 17, 31, 32, 34 – 36, 40, 41 and 43 – 45 are allowable for at least the reasons discussed above with respect to independent claims 14, 33 and 42.

Claims 32, 40 and 43

Additionally, Applicants submit that Lee does not disclose the features of claims 32, 40 and 43. Claims 32, 40 and 43 each recite, in pertinent part:

. . . wherein the semiconductor device comprises an FET prime cell.

In addressing these claims, the Examiner asserts Lee discloses a FET prime cell in Figure 2. Applicants respectfully disagree.

Applicants submit that Figure 2 of Lee shows a layout structure of the prior art. However, Applicants submit that Lee does not disclose that the layout structure is a FET prime cell. In fact, Applicants submit that Lee is completely silent with regard to a prime cell or a FET prime cell.

Thus, Applicants submit that Lee does not disclose the semiconductor device comprises an FET prime cell, and does not anticipate the features of claims 32, 40 and 43.

Accordingly, for at least these reasons, Applicants respectfully request the rejection of claims 14 – 17, 31 – 36 and 40 – 45 be withdrawn.

35 U.S.C. § 103 Rejections

Claims 18, 19, 37 and 38 were rejected under 35 U.S.C. §103(a) for being unpatentable over Lee in view of U.S. Patent No. 4,738,936 issued to Rice ("Rice"). Claims 20, 39 and 46 – 49 were rejected under 35 U.S.C. §103(a) for being unpatentable over Lee in view of U.S. Patent Publication No. 2004/0238871 to Herzum et al. ("Herzum"). These rejections are respectfully traversed.

In order to reject a claim under 35 U.S.C. §103(a), the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.[1] Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §2142. Applicants submit that no proper combination of the applied art teaches or suggests each and every feature of the claimed invention.

Dependent Claims 18, 19, 37 and 38 over Lee in view of Rice

Claims 18, 19, 37 and 38 are dependent claims, depending from respective distinguishable independent claims. For this reason, Applicants submit that claims 18, 19, 37 and 38 are allowable for at least the reasons discussed above with respect to independent claims 14 and 33.

[1] While the *KSR* court rejected a rigid application of the teaching, suggestion, or motivation ("TSM") test in an obviousness inquiry, the [Supreme] Court acknowledged the importance of identifying "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does" in an obviousness determination. *Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356-1357 (Fed. Cir. 2007) (quoting *KSR International Co. v. Teleflex Inc.*, --- U.S. ----, 127 S.Ct. 1727, 1731 (2007)).

Moreover, Applicants submit that Rice does not cure the above-noted deficiencies of Lee. Rice discloses a FET with a source contact (see title). However, Applicants submit that Rice does not teach or suggest a drain comprising at least one drain finger extending beyond a metal ring. Thus, Applicants submit that Rice does not cure the above-noted deficiencies of Lee.

Accordingly, for at least these reasons, Applicants respectfully request the rejection of claims 18, 19, 37 and 38 be withdrawn.

Dependent Claims 20, 39 and 46 – 49 over Lee in view of Herzum

Claims 20, 39 and 46 – 49 are dependent claims, depending from respective distinguishable independent claims. For this reason, Applicants submit that claims 20, 39 and 46 – 49 are allowable for at least the reasons discussed above with respect to independent claims 14, 33 and 42.

Moreover, Applicants submit that Herzum does not cure the above-noted deficiencies of Lee. Herzum teaches a FET having planar and non-planar metallization levels. However, Applicants submit that Herzum does not teach or suggest a drain comprising at least one drain finger extending beyond a metal ring. Thus, Applicants submit that Herzum does not cure the above-noted deficiencies of Lee.

Claims 46 and 47

Additionally, Applicants submit that Lee in view of Herzum does not teach or suggest the features of claims 46 and 47. Claim 46 recites, in pertinent part:

> . . . wherein silicide provides electrical contact between the source and the active region.

Claim 47 recites, in pertinent part:

> . . . further comprising silicide arranged over the source and an active region of the semiconductor device and providing electrical contact between the source and the active region.

In addressing claim 46, the Examiner refers to Figure 3 of Herzum (which Applicants have reproduced below), stating:

> Herzum has a similar structure wherein fig. 3 shows the substrate contact (reference numeral 12) comprises a p+ contact arranged with [sic] an active region (10) (see par. [0035]) and wherein silicide (reference numeral 52) provides electrical contact between the source (14) and the active region (10).

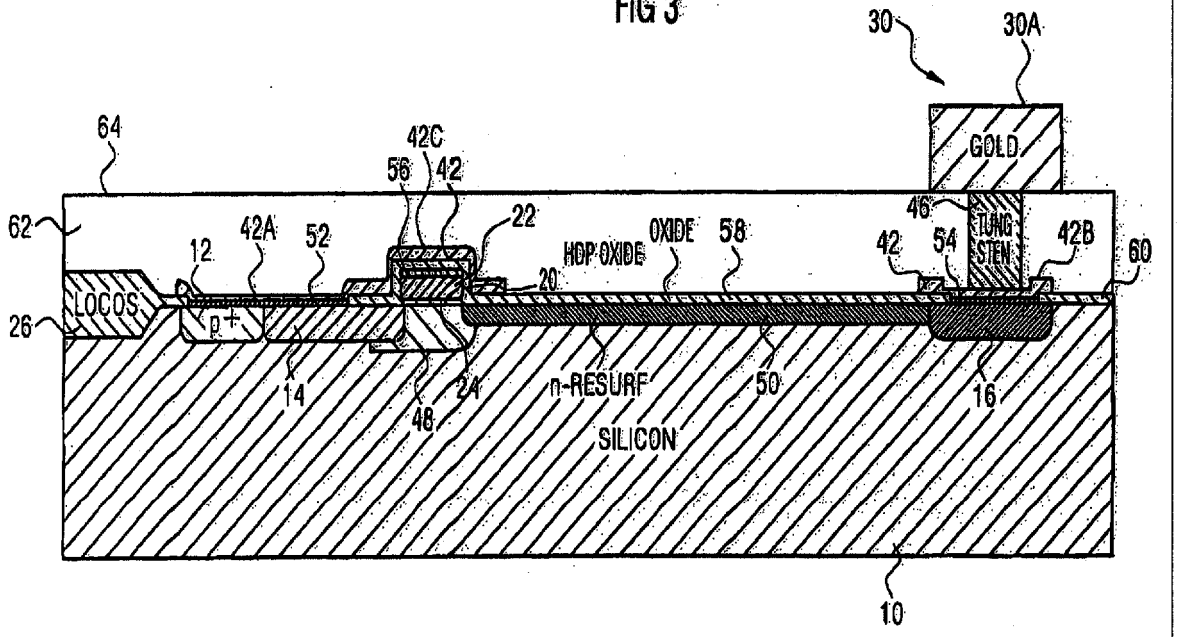
Additionally, in addressing claim 47, the Examiner states:

> Fig. 3 of Herzum shows a similar semiconductor device structure including: silicide (52) arranged over the source (14) and an active region of the semiconductor device (10) and providing electrical contact between the source and the active region (see par. [0036]).

Applicants respectfully disagree. Applicants have reproduced paragraph [0036] of Herzum, which states (emphasis added):

> A titanium silicon layer (TiSi layer) 52 is arranged on the surface of the substrate 10 so that it borders on the source 14 and the sinker 12 and at least partially covers the same. As the TiSi layer 52 comprises a high electric conductivity and preferably respectively covers a face as large as possible of the sinker 12 and the source 14, a current flows between the n+-doped source and the p+-doped sinker across the TiSi layer 52 which thus represents a silicide current bridge. A further TiSi layer 54 is arranged on the surface of the substrate 10 so that it borders on the drain 16. The gate 20 is arranged at the surface of the substrate 10 such that it opposes the body area 48 and is only separated from this area by the thin oxide layer 24. The gate 20 is a stack of the polysilicon layer 22 and a further TiSi layer 56 which comprises a lower thickness than the polysilicon layer 22 and is arranged on a side of the polysilicon layer 22 facing away from the substrate 10.

FIG 3



As shown in Figure 3, the Examiner-designated silicide 52 is formed atop the Examiner-designated source 4 and the Examiner-designated substrate contact 12, which in turn, are formed in the Examiner-designated active region 10.

Applicants submit that Herzum does not teach or suggest that "silicide provides electrical contact between the source and the active region," as recited in claim 46, and does not teach or suggest the silicide "providing electrical contact between the source and the active region," as recited in claim 47. That is, as shown in Figure 3 and discussed in paragraph [0035] of Herzum, Applicants submit that the Examiner-designated silicide layer is arranged covering a face as large as possible of the Examiner-designated substrate contact (i.e., the sinker 12) and the Examiner-designated source 14. Moreover, Herzum teaches that a current flows between the n+ doped source and the p+ doped sinker across the TiSi layer 52 which thus represents a silicide current bridge.

However, Applicants submit that Herzum does not teach or suggest that the Examiner-designated silicide provides electrical contact between the source and the active region. Rather,

Applicants submit that the Examiner-designated source 14 is provided an electrical contact between the source and the active region by virtue of being formed in the active region, as shown in Figure 3. As such, Applicants submit that Lee in view of Herzum does not teach or suggest the features of claims 46 and 47, and does not render the instant invention unpatentable.

Accordingly, for at least these reasons, Applicants respectfully request the rejection of claims 20, 39 and 46 – 49 be withdrawn.

New Claims

Applicants have added claims 50 and 51 for the Examiner's consideration. Applicants submit that claims 50 and 51 recite additional features not disclosed, taught or suggested in Lee, Rice or Herzum, or any combination thereof. Additionally, Applicants submit that claims 50 and 51 are dependent claims, depending from a distinguishable base claim. Accordingly, these claims should also be in condition for allowance at least based upon their dependencies.

Thus, Applicants respectfully request that new claims 50 and 51 be indicated as allowable.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Deposit Account No. 09-0458.

Respectfully submitted,
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